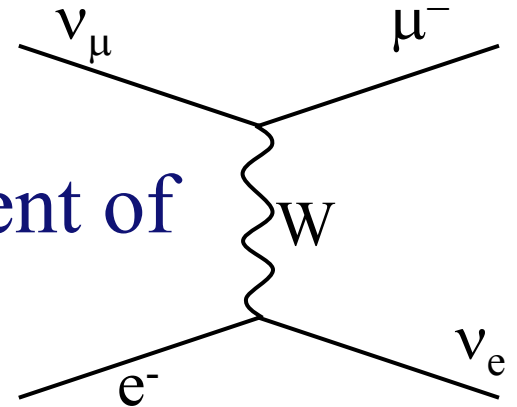


Inverse Muon Decay

- ν_μ CC off atomic electrons
- In principle, QCD-free measurement of neutrino flux
- But...
 - ▶ Threshold is 11 GeV
 - ▶ Cross section is tiny: $1.7 \times 10^{-40} \text{ cm}^2/\text{GeV}$ at high E
 - ▶ $\sim 1/500$ of QE cross section at 15 GeV
- Studied by Vicki Moeller (FNAL Summer Student) and Peter S.
- MC Model by Costas, Implemented by Hugh



IMD Signature

- Nothing but a muon

- ▶ >11 GeV/c
- ▶ Very forward: all within 5mR of beam

- Backgrounds

- ▶ Forward QEL with unseen proton
- ▶ Even DIS gets in on the act!
- ▶ Low energy of our beam, and poor angular resolution and longitudinal segmentation of the detectors make this measurement extremely difficult
- ▶ Work in progress... - P.S. will continue, Aaron McGowan?

